

LOP 6558

geo - logic geotechnical and environmental consulting services

1140 - 5th Avenue, Crockett, CA 94525

(510) 787-6867 - Fax (510) 787-1457

December 17, 1999

Ms. Susan Hugo
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

RE: Fourth Quarter 1999 Monitoring and Sampling Report for
Former Berkeley Farms Truck Repair Shop and Yard
4575 San Pablo Avenue
Emeryville, California 94608

Dear Ms. Hugo:

Enclosed is the above-referenced report. Note that replacement well MW1A, for which you observed the sampling, showed detectable concentrations of hydrocarbons. Should you have any questions regarding the report, please feel free to call me at (510) 787-6867.

Sincerely,

Geo-Logic



Joel G. Greger, C.E.G.
Certified Engineering Geologist

License No. EG 1633
Exp. Date 8/31/2000

Attachment

ENVIRONMENTAL
PROTECTION

99 DEC 23 PM 3:27

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geotechnical and environmental consulting services

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GL-97-110.R11
Paradiso Job No. 1103-03
December 17, 1999

Mr. Pat Roland
Berkeley Farms
25500 Clawiter Road
Hayward, California

RE: Fourth Quarter 1999 Monitoring and Sampling Report for
Former Berkeley Farms Truck Repair Shop and Yard
4575 San Pablo Avenue, Emeryville, California 94608

Mr. Roland:

This report presents the results of the fourth quarter 1999 monitoring and sampling of the wells at the subject site. During this quarter, the wells were monitored and sampled on December 8, 1999. On this date, the two monitoring wells located at 4550 San Pablo Avenue (Former Berkeley Farms Dairy) were monitored by SOMA Environmental Engineering, Inc. of San Ramon, California, and the groundwater depth data was provided to Geo-Logic.

The work during this quarter was performed in compliance with the guidelines established Regional Water Quality Control Board (RWQCB), and Alameda County Department Environmental Health Services (ACEHS).

SITE DESCRIPTION AND BACKGROUND

The subject site is located on the western side of San Pablo Avenue between 45th and 47th Streets in Emeryville, California, and formerly contained a service station facility at the southern portion of the property. Until 1998, the site operated as a truck repair shop and yard for Berkeley Farms. A Site Plan (Figure 1) is attached to this report.

Geo-Logic's previous work at the site includes sampling during over-excavation of a waste oil tank at the northern end of the property. This work is summarized in Geo-Logic's reports (GL-97-110.R1 and GL-97-110.R2), both dated February 10, 1998. Following this work, installation of three monitoring wells was proposed (work plan/proposal GL-98-110, dated November 15, 1997). The wells were installed in February, 1998. This work, including the results of the first quarter of monitoring and sampling, was documented in Geo-Logic's report (GL-97-110.R3) dated March 7, 1998.

In April and May, 1998, a former service station fuel tank pit at the southern portion of the site was extensively over-excavated. This work, and the results of the second quarter of monitoring and sampling, was documented in Geo-Logic's report (GL-97-110.R4) dated June 9, 1998.

On September 5, 1998, as discussed in a prior meeting with Ms. Susan Hugo of the ACEHS, ORC filter socks were placed in monitoring wells MW2 and MW3. ORC is a insoluble solid peroxygen consisting of magnesium peroxide which has been formulated to release oxygen at a controlled rate when hydrated. The purpose of the ORC in wells MW2 and MW3 was to enhance conditions for the natural biodegradation of petroleum hydrocarbons. Prior to installation of the ORC, baseline measurements of dissolved oxygen in groundwater (DO) were taken. With the concurrence of MS. Susan Hugo of the ACEHS, the ORC was removed from well MW2 on February 5, 1999.

On July 30, 1999, well MW1, damaged during construction, was properly abandoned and replacement well MW1A was constructed, developed, and initially sampled. This work was reported in Geo-Logic's report (GL-97-110.R9) dated August 12, 1999.

RECENT FIELD ACTIVITIES

Wells MW1A, MW2 and MW3 were monitored and sampled during this quarter on December 8, 1999. Prior to sampling, the wells were checked for depth to water, and the presence of free product and sheen. No free product or sheen was noted in any of the wells. Ms. Susan Hugo of the ACEHS witnessed the sampling of replacement well MW1A.

The monitoring data collected this quarter is summarized in Table 1. After recording the monitoring data, the wells were each purged of approximately eight gallons of water. Once a minimum of approximately three to four casing volumes had been removed from each well and the groundwater level was observed to have stabilized, water samples were then collected by the use of a clean Teflon bailer. The samples were decanted into clean VOA vials, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler on ice, until delivery to a state-certified laboratory.

HYDROLOGY

On December 8, 1999, the measured depth to ground water in monitoring wells MW1A, MW2, and MW3 ranged from 8.51 to 9.06 feet below the tops of the well casings. Since last quarter, the elevation of ground water in wells MW1A and MW2 increased 0.33 and 0.29 feet, respectively, and the elevation of ground water in well MW3 decreased 0.31 feet. Using the data from the three wells, and the data from two wells at 4550 San Pablo Avenue (also monitored on December 8, 1999), the calculated ground water flow direction was to the west, as shown on the attached Potentiometric Surface Map, Figure 1. The hydraulic gradient at the site on December 8, 1999, was approximately 0.01. The ground water flow direction and hydraulic gradient is consistent with previous quarters.

ANALYTICAL RESULTS

Water samples from the three wells were analyzed at McCampbell Analytical, Inc., in Pacheco, California. All samples were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline and TPH as diesel by EPA method 8015, and benzene, toluene, ethylbenzene,

and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA method 8020. In addition, the sample collected from MW2, located in the downgradient vicinity of a former waste oil tank, was analyzed for Total Extractable Petroleum Hydrocarbons as Diesel and Motor Oil.

The concentrations of TPH as gasoline, benzene, and TPH as diesel detected in the ground water samples collected on December 8, 1999, are shown on the attached Figure 2. The results of the water analyses are summarized in Table 2. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

DISTRIBUTION

A copy of this report should be sent to Ms. Susan Hugo of the ACEHS.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this work are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed these data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

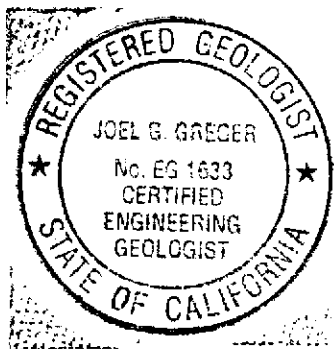
If you have any questions regarding this report, please do not hesitate to call me at (510) 787-6867.

Sincerely,

Geo-Logic



Joel G. Greger, C.E.G.
Certified Engineering Geologist
License No. EG 1633
Exp. Date 8/31/2000



Attachments: Tables 1 and 2
Figures 1 & 2
Laboratory Analyses and Chain of Custody documentation

TABLE 1
 SUMMARY OF GROUND WATER MONITORING AND PURGING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)□	Total Well Depth (feet)□	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on December 8, 1999)						
MW1A	32.95	9.06	16.93	0	No	8
MW2	31.87	8.91	16.55	0	No	8
MW3	32.57	8.51	16.58	0	No	8
(Monitored and Sampled on September 6, 1999)						
MW1A	32.92	9.88	16.94	0	No	8
MW2	32.16	8.62	16.55	0	No	8
MW3	32.88	8.20	16.59	0	No	8
(Monitored and Sampled on June 7, 1999)						
MW1					(Well inaccessible, damaged)	
MW2	32.65	8.13	16.55	0	No	8
MW3	33.57	7.51	16.61	0	No	8
(Monitored and Sampled on March 4, 1999)						
MW1					(Well inaccessible, damaged)	
MW2	35.28	5.5	16.56	0	No	8
MW3	35.85	5.23	16.60	0	No	8
(Monitored and Sampled on November 17, 1998)						
MW1	32.95	9.06	16.59	0	No	7
MW2	31.73	9.05	16.55	0	No	7
MW3	33.09	7.99	16.61	0	No	7
(Monitored and Sampled on August 21, 1998)						
MW1	35.51	7.84	16.60	0	No	7
MW2	34.17	8.61	16.56	0	No	7
MW3	35.42	6.27	16.61	0	No	7
(Monitored and Sampled on June 3, 1998)						
MW1	35.51	6.50	16.60	0	No	8
MW2	34.17	6.61	16.57	0	No	8
MW3	35.42	5.66	16.62	0	No	8
(Monitored and Sampled on February 27, 1998)						
MW1	37.51	4.50	16.61	0	No	8
MW2	35.61	5.17	16.58	0	No	8
MW3	37.28	3.80	16.63	0	No	8
(Monitored and Developed on February 24, 1998)						
MW1	37.57	4.44	16.59	0	No	24
MW2	35.69	5.09	16.58	0	No	21
MW3	37.38	3.70	16.62	0	No	25

TABLE 1 - Continued

SUMMARY OF GROUND WATER MONITORING AND PURGING DATA

<u>Well #</u>	<u>Top of Casing Elevation* (feet)</u>
MW1A	42.01
MW2	40.78
MW3	41.08

Depth to water and total well depth measurements are taken from the top of the well casings.

* The elevation of the tops of the well casings have been surveyed relative to City of Oakland Benchmark No. 241.

TABLE 2
 SUMMARY OF LABORATORY ANALYSES - WATER

<u>Date</u>	<u>Sample Number</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>
12/8/99	MW1A	310	1,200	93	1.8	48	53
9/6/99	MW1A	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
8/6/99	MW1A	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
6/7/99	MW1		(Well inaccessible, damaged)				
3/4/99	MW1		(Well inaccessible, damaged)				
11/17/98	MW1	88,000	29,000	2,300	3,000	3,600	3,100
8/21/98	MW1+	96,000	38,000	1,700	1,000	2,400	3,300
6/2/98	MW1	105,000	34,000	1,900	1,600	2,400	3,500
2/27/98	MW1	81,000	27,000	2,200	910	1,700	2,700
12/8/99	MW2	<50	<5.0	<0.5	<0.5	<0.5	<0.5
9/6/99	MW2	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
6/7/99	MW2	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
3/4/99	MW2	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
11/17/98	MW2	4,300	260	190	420	470	600
8/21/98	MW2+	1,900	<5.0	<0.5	<0.5	220	400
6/2/98	MW2	7,600	60	220	510	800	1,100
2/27/98	MW2	14,000	<5.0	<0.5	120	460	730
12/8/99	MW3	<50	<5.0	<0.5	<0.5	<0.5	<0.5
9/6/99	MW3	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
6/7/99	MW3	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
3/4/99	MW3	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
11/17/98	MW3	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
8/21/98	MW3+	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
6/2/98	MW3	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
2/27/98	MW3	--	<5.0	<0.5	<0.5	<0.5	<0.5
Detection Limit		<5.0	<5.0	<0.5	<0.5	<0.5	<0.5

+ Cadmium, chromium, lead, nickel, and zinc were nondetectable, except for 0.078 mg/l of nickel detected in MW1.

TABLE 2 - (Continued)

SUMMARY OF LABORATORY ANALYSES - WATER

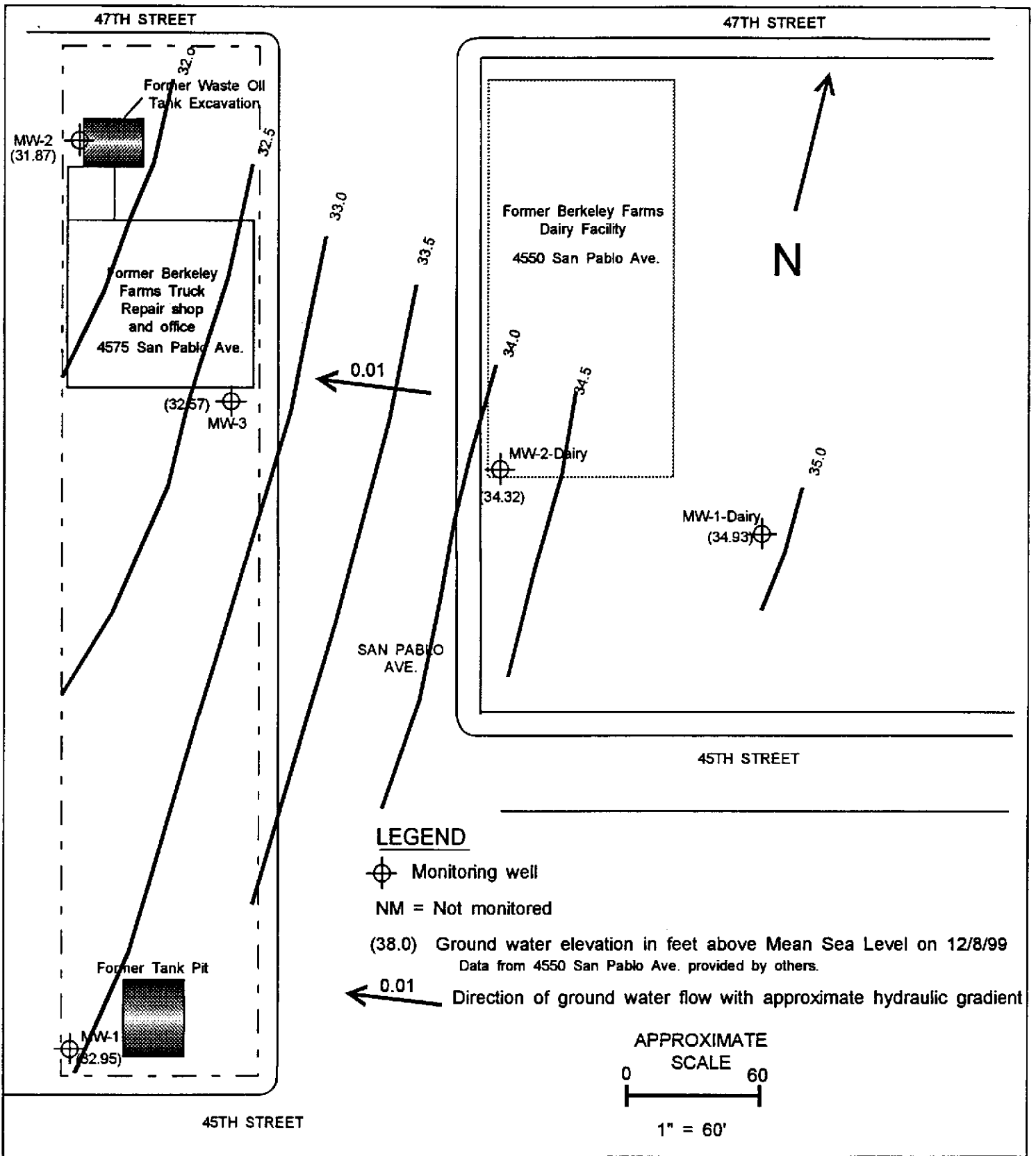
<u>Date</u>	<u>Sample Number</u>	<u>TPH as Motor Oil</u>	<u>TEPH</u>	<u>MTBE</u>	<u>TOTAL LEAD</u>
12/8/99	MW1A	--	--	140	--
9/6/99	MW1A	--	--	<0.5	--
6/7/99	MW1	(Well inaccessible, damaged)			
3/4/99	MW1	(Well inaccessible, damaged)			
11/17/98	MW1	--	--	<0.5	--
6/2/98	MW1*	--	80,000	<0.5	<5.0
2/27/98	MW1	--	--	<0.5	--
12/8/99	MW2	<250	--	<5.0	--
9/6/99	MW2	47	--	<0.5	--
6/7/99	MW2	<0.5	--	<0.5	--
3/4/99	MW2	<0.5	--	<0.5	--
11/17/98	MW2	<0.5	--	<0.5	--
6/2/98	MW2*	--	3,800	<0.5	<5.0
2/27/98	MW2	--	20,000**	<0.5	--
12/8/99	MW3	--	--	18	--
9/6/99	MW3	--	--	<0.5	--
6/7/99	MW3	--	--	<0.5	--
3/4/99	MW3	--	--	<0.5	--
11/17/98	MW3	--	--	<0.5	--
6/2/98	MW3*	--	<5.0	<0.5	<5.0
2/27/98	MW3	--	--	--	--

* All EPA Method 8010 constituents were nondetectable.

** 20,000 ppb of Total Recoverable Petroleum Hydrocarbons by EPA Method 418.1.

-- analyses not performed

Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.



LEGEND

⊕ Monitoring well

NM = Not monitored

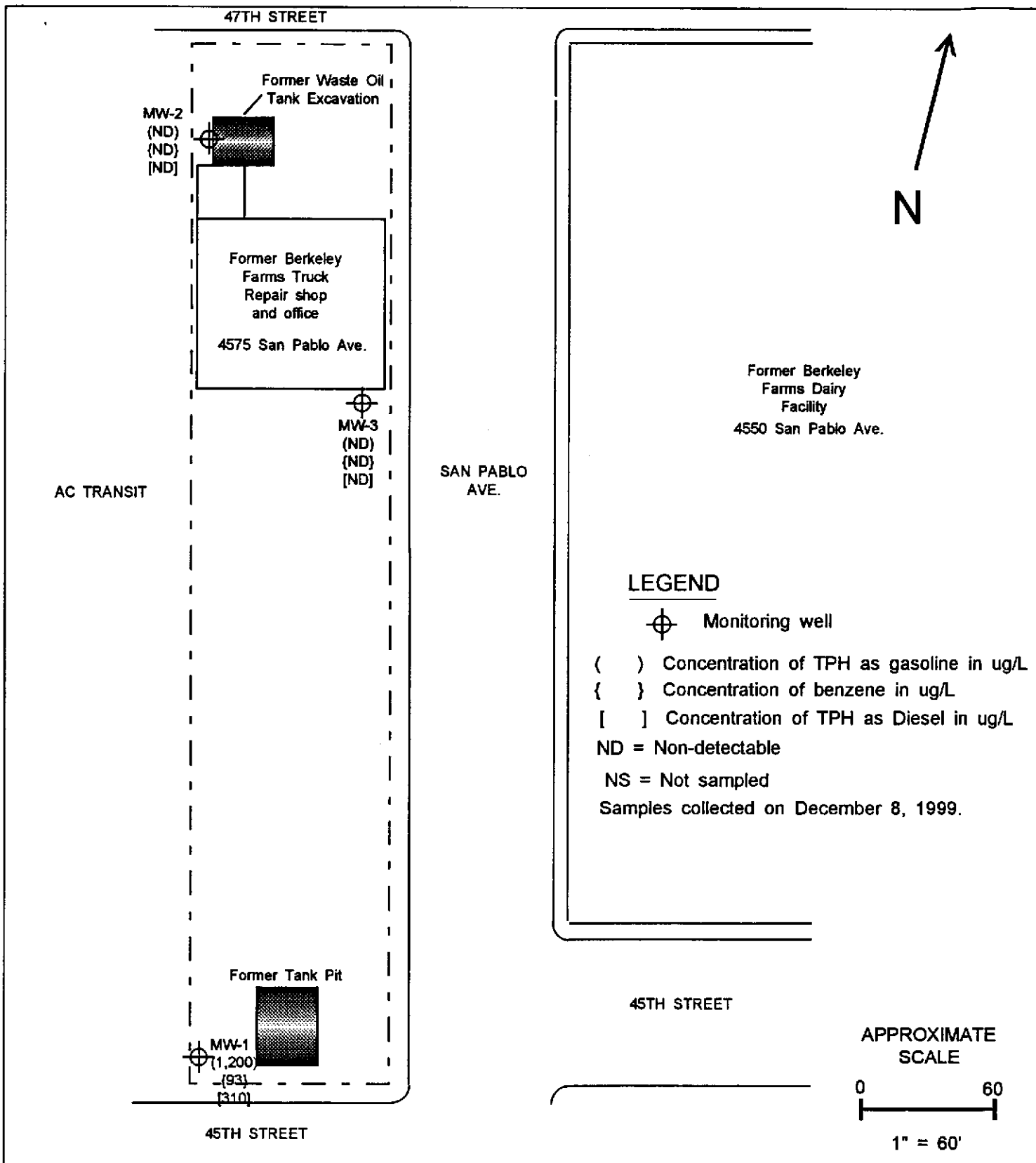
(38.0) Ground water elevation in feet above Mean Sea Level on 12/8/99
 Data from 4550 San Pablo Ave. provided by others.

← 0.01 Direction of ground water flow with approximate hydraulic gradient

APPROXIMATE
 SCALE
 0 ————— 60
 1" = 60'

Former Berkeley Farms Facility 4575 San Pablo Avenue Emeryville, California	Figure No: 1	Date: December 9, 1999
		Drawn By: JG/Geo-Logic

Potentiometric Surface Map



Fmr. Berkeley Farms Truck Shop & Yard
4575 San Pablo Avenue
Emeryville, California

Figure No:

2

Date: December 9, 1999

Drawn By: JG/Geo-Logic

Petroleum Hydrocarbons in Groundwater

Proj. Mgr.: Joel Greger Geologic
 Company: Paradise Mechanical
 Address: POB 1836
2600 Williams St
San Leandro CA 94577

Analysis Report

26961
 26962
 26963

Samples (signature) (Phone No.)
Joel Greger (570) 787-6867
 (Fax No.)
 (570) 787-1457

Sample ID	Type	Date	Time	Preserve	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (8030, 8015) w/ BTEX (EPA 602, 8020)	TPH - Diesel (TEPH) (EPA 3510/3550, 8015)	PURGEABLE AROMATICS (EPA 602, 8020)	PURGEABLE HALO CARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 8242)	BASE NEUTRALS, ACIDS (EPA 625/627, 8270, 828)	TOTAL OIL & GREASE (EPA 5520 5+*, 5+*)	PCB (EPA 508, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	7/11/99 11:00 AM	LUFT	METALS Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (CLP, STLC)	MTBE on 2020	TEPH	NUMBER OF CO	
MW 1 A	Water	12/8/99	7 PM			X	X																			
MW 2	↓					X	X									X							X			
MW 3	↓		4 PM	2 preserved		X	X									X						X		X		

ICE GOOD CONDITION
 HEAD SPACE ABSENT
 PRESERVATION APPROPRIATE CONTAINERS

Project Information
 Project Name: Furnace Berkeley Furnace Truck Shop + Yard (KFC)
 Project No.: 1103-03
 PO #

Sample Receipt
 Total No. of Containers: 24
 Head Space: 48
 Rec'd Good Condition/Cold: 72
 Conforms To Record: Other

Relinquished By: Joel Greger
 (Signature)
Joel Greger
 (Printed Name)
 Date: 12/8/99 Time: 4:07 PM

1. Relinquished By: Kevin Yu
 (Signature)
 (Printed Name)
 Date: 12/8/99 Time: 5:00

Special Instructions / Comments:
Refer to Job Name + Number on tab sheets + invoice:
Furnace Berkeley Furnace Truck Shop + Yard (KFC)
4575 San Pablo Ave.
Emeryville
1103-03

Received By: Kevin Yu
 (Signature)
 (Printed Name)
 Date: 12/8/99 Time: 4:12

1. Received By: H. Ricca
 (Signature)
 (Printed Name)
 Date: 12/8/99 Time: 17:00

11/1/99
 11/1/99
 11/1/99
 11/1/99